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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,757

06/20/2005

Masasuke Yoshida

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EXAMINER

CHAPEL, DEREK S

ART UNIT

PAPER NUMBER

2872

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,757	<b>Applicant(s)</b> YOSHIDA ET AL.	
	<b>Examiner</b> DEREK S. CHAPEL	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2 is/are rejected.
- 7) ☒ Claim(s) 1 and 3-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/20/05</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status Of Claims***

1. Claims 1-5 are pending for examination as interpreted by the examiner.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

3. The information disclosure statement filed 6/20/2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the lined through references have not been considered.

### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: element 27 from figure 1 and elements 5 and 6 from figure 6 are not disclosed in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet,

even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to because element "34A" should be changed to --34B-- in figure 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

6. The abstract of the disclosure is objected to because:

- a. it's too long;
- b. instances of "The present invention" should be removed.

Correction is required. See MPEP § 608.01(b).

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The disclosure is objected to because of the following informalities: on line 8 of page 8 of the specification, "33" should be changed to --32--, on line 7 of page 10, "mirror11" should be changed to --mirror 11-- and the headings of the specification should be as set forth below.

Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in

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upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

### ***Claim Objections***

9. Claims 1-5 are objected to because of the following informalities:
- a. on line 3 of claim 1, "laser beams" should be changed to --the laser beams--;
  - b. on line 4 of claim 1, "the illumination" should be changed to --illumination--;
  - c. on line 4 of claim 1, "that are" should be changed to --that is--;
  - d. on line 2 of claim 2, "comprise" should be changed to --comprises--;
  - e. on line 3 of claim 3, "their diameter is" should be changed to --the laser beams diameters are--;

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- f. on line 6 of claim 3, “annulus –diaphragm” should be changed to --annulus-diaphragm--;
- g. on line 1 of claim 4, “A polarized total” should be changed to --The polarized total--;
- h. on line 2 of claim 4, “Claims” should be changed to --claims--;
- i. on line 6 of claim 4, “via peripheral” should be changed to --via a peripheral--;
- j. on line 1 of claim 5, “A polarized total” should be changed to --The polarized total--;
- k. on line 2 of claim 5, “Claims” should be changed to --claims--; and
- l. on line 2 of claim 5, “a index pin” should be changed to --an index pin--.

Appropriate correction is required.

10. Claims 1-5 recite the limitations:

- a. “the objective lens” on line 2 of claim 1;
- b. “the peripheral region” on line 3 of claim 1;
- c. “the radial direction” on line 5 of claim 1;
- d. “the unit” on line 2 of claim 2;
- e. “the laser beams” on line 3 of claim 2;
- f. “the laser beam” on line 2 of claim 3;
- g. “the laser light source” on line 2 of claim 3;
- h. “the rotary polarizer” on line 5 of claim 3 and line 3 of claim 4;
- i. “the collector lens” on line 4 of claim 4;

- j. “the annulus parallel beams” on line 4 of claim 4;
- k. “the objective” on line 5 of claim 4;
- l. “the field diaphragm plane” on line 3 of claim 5;
- m. “the visual field” on line 5 of claim 5; and
- n. “the microscope” on line 5 of claim 5.

There is insufficient antecedent basis for these limitations in the claims.

11. Claims 4 and 5 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim must be in the alternative only. It is noted that “in any of Claims 1 through 3” could be changed to --in any one of claims 1 through 3-- to fix the dependency. See MPEP § 608.01(n). Accordingly, claims 4 and 5 have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Kramer et al., U.S. Patent Number 5,481,384 (hereafter Kramer).

14. As to claim 2, Kramer discloses a polarized total internal reflection illumination optical system (see figure 6, element “POLARIZING BEAM SPLITTER CUBE DEFLECTOR ELEMENT (74)”) by rotary annulus light (see column 8, lines 47-59; it is noted that since the deflector is directing the beam in a circular pattern by rotation, it is



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interpreted to be "rotary annulus light") featuring a drive means (see figure 6, element "ROTOR") which rotates a unit (see figure 6, element "DEFLECTOR HOUSING STRUCTURE (82)") that comprises a polarizer (see figure 6, elements "POLARIZING BEAM SPLITTER CUBE DEFLECTOR ELEMENT (74)" and "QUARTER-WAVE PLATE WITH REFLECTING SURFACE") to adjust the direction of polarization of laser beams (see figure 6 and column 1, lines 9-12, column 2, lines 28-35 and column 8, lines 47-59) and a tiltable mirror to form annulus light (see figure 6, element "POLARIZING BEAM SPLITTER CUBE DEFLECTOR ELEMENT (74)").

***Allowable Subject Matter***

15. Claims 1 and 3, as best understood, would be allowable if rewritten to overcome the objections set forth above.

16. The following is a statement of reasons for the indication of allowable subject matter:

Claim 1, as best understood, would be allowable over the prior art, if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for at least the reason that the art to teach or reasonably suggest rotary annulus light in which laser beams are introduced into a objective lens of a microscope at a peripheral region, wherein the direction of illumination of the laser beams is rotatable and illumination is performed using s-polarized light that is perpendicular to a radial direction from the center of optical axis of the objective lens at all times, as generally set forth in claim 1, the device including, in combination with the features recited in claim 1.

Claim 3, as best understood, would allowable over the cited art of record, if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for at least the reason that the cited art of record fails to teach or reasonably suggest rotary annulus light in which laser beams from a laser light source are expanded by a beam expander provided with a spatial filter such that the laser beams diameters are increased to up to one half the average diameter of the annulus, and thereafter which the expanded beams are introduced into a rotary polarizer and mirror unit, effectively eliminating the need for the use of an annulus-diaphragm, as generally set forth in claim 3, the device including, in combination with the features recited in claim 3.

### ***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEREK S. CHAPEL whose telephone number is (571)272-8042. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S. C./  
Examiner, Art Unit 2872  
3/3/2008

/Stephone B. Allen/  
Supervisory Patent Examiner, Art Unit 2872